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Agricultural Growth And Equity

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I

Combination of Growth with Equity: Experience of Taiwan and South Korea

In the 1950s and 1960s, the main concern of the developing countries has been rapid economic growth signified by the rate of growth of gross national product (GNP). It was believed that the benefits of overall growth would "trickle down" to the mass of the people. The more rapid the rate of economic growth, the more rapid, it was held, would be the improvement in employment and income distribution. However, the experience of most developing countries has been that growth has not been accompanied by equitable distribution of the benefits of growth. On the contrary, it has been accompanied by rising disparities in personal and regional incomes; nor has growth made any significant dent on unemployment. It is now being widely recognized that rapid growth of GNP is not by itself sufficient to bring about development with equity; more attention has to be paid to the content and distribution of GNP. Indeed "the maximization of GNP per capita is too narrow an aim and that other aims related to poverty reduction need to be considered as well: improving income distribution, increasing employment, fulfilling basic needs". (David Morawetz 1977)[1/]

In economies dominated by agriculture, what is more relevant for consideration is whether rapid agricultural growth can be achieved with an equitable distribution of the benefits of such growth in the sense of reduction of income inequality and generation of greater employment opportunities. Are there any instances of countries where

this has taken place? Two countries in South-East Asia, excluding the centrally planned economies, have been notable in achieving rapid agricultural growth with equity. They are Taiwan and South Korea, referred to as Newly Industrialising Countries (NIC) and sometimes as the "little dragons of East Asia". Two questions arise (i) what have been the factors that have contributed to the combination of growth with equity in these two countries, and (ii) how relevant is their experience to other developing countries?

The Taiwan Experience

In Taiwan, the fifties and the sixties, witnessed rapid growth of agriculture. A number of factors contributed to this development. In the first place, substantial infrastructure had been built up by Japan during the period of its occupation of the country 1895-1945. This took the form of extensive irrigation works; building up of an efficient system of rail roads and rural roads to facilitate the transport of rural production (it may be mentioned that Taiwan served as the rice bowl for Japan); introduction of new farming techniques and the setting up of farmers associations to give advice on modern methods of agricultural practices; and rural credit societies for provision of credit. Secondly, after independence there has been a substantial increase in agricultural productivity due to expansion in irrigation and flood control facilities and more importantly due to technological change which was of the chemical variety (seed-fertilizer technology) and not mechanical. During 1951-64 the average rate of growth of the agricultural sector was 5.0 percent per annum[2/] and that of agricultural output 5.5 percent (1952-60).

Side by side with improvements in production, structural changes were also introduced through land reform, initiated

between 1949 and 1953. This has been the most important factor accounting for improvement in the distribution of income. The first step was the sale of public land to tenant farmers which was facilitated by the Japanese ownership of 25 percent of arable land during their occupation. During 1948-53, 35 percent of Taiwan's arable public land were sold to tenant farmers and during 1953-58, 43 percent.3/ More far reaching was the compulsory sale of land by landlords. Privately owned land in excess of specified limits per land owner (the limit was 3 hectares of medium range land) had to be sold to the government which resold that land to the tenants. As a consequence of these measures, the distribution of land holdings drastically changed between 1952 and 1960. The proportion of land cultivated by tenants fell from 44 percent in 1948 to 17 percent in 1959; the percentage of owner cultivators increased from 36 percent in 1950 to 64 percent in 1959-60.4/ This initial distribution of assets due to land reform meant that increase in agricultural productivity took place mainly in owner operated farms.

In respect of employment, there was a substantial increase in labour absorption in agriculture between 1952 and 1964 due to the type of technology used which generally used labour and saved land and capital. The number of working days per hectare of land increased from 170 in 1948-50 to about 260 in 1963-65.5/ The change in the cropping pattern signified by the introduction of high value and labour-intensive crops such as mushroom and asparagus in addition to expansion of rice cultivation by family based farms also contributed to increased farm employment besides helping to earn foreign exchange.

The rapid growth of rural industries (mainly rural-based food processing industries) provided employment

to members of farm households. The level of income from non-farm sectors was as high as 66 percent of total income in 1967. The distribution of farm family income thus improved as a combined result of initial distribution of assets and availability of off-farm employment.

A labour intensive export oriented industrialisation was adopted by Taiwan from about 1968. From this time on, labour surplus condition which had been the characteristic of Taiwanese economy ended and reallocation of labour from agricultural sector to non-agricultural sector began to take place. Hence the dominant position of agriculture ceased to exist and the agricultural economy was transformed into an industrial economy. This has been reflected in the reduction in the rate of growth of agriculture to 2.8 percent per annum after 1965 (vide Appendix Table 1). The experience of Taiwan in combining agricultural growth with equity was accomplished during the period before 1968.

The combination of agricultural growth with equity resulted from (a) the priority attached to agricultural sector; (b) the favourable performance of agriculture indicated by rising productivity; (c) the initial distribution of assets due to land reform; (d) the substantial increase in the absorption of labour in agriculture; (e) the off-farm employment in the rapidly growing rural industrial sector; and (f) the pattern of industrialization adopted, namely labour-intensive export-oriented type.

The consequence of these policies has been that during 1960s, inequality as represented by Gini co-efficient declined and continued to fall. It was 0.5 in the early 1950s; it declined to 0.3 between 1968-72 and to 0.27 between 1976-78.[6/] In fact Taiwan has the lowest Gini coefficient of income distribution among developing economies.

Further, absolute poverty fell impressively. The percentage of households with incomes below a specified figure declined from 35 percent in 1964 to 10 percent in 1972.[7/] As is to be expected, employment in agriculture as a percentage of total employment declined in the development process from 50 percent in 1964 to 36.8 percent in 1970 and to 22.5 percent in 1979.[8/] These indicators demonstrate how successful Taiwan has been in reducing income inequality and poverty and expanding employment in agriculture before the period of rapid industrialisation (before 1968). They also demonstrate that growth need not necessarily conflict with equity.

South Korean Experience

Like Taiwan, South Korea too was under Japanese colonial rule though for a shorter period, 35 years from 1910 to 1945. While Japan devoted more attention to agricultural infrastructure in Taiwan, it pushed industrialisation heavily in Korea. It may be mentioned that Korean agriculture suffers from several disabilities. It has a poor endowment of natural resources. Most of the land are at high elevation. Agricultural productivity has not been as high as in Taiwan. Agricultural growth though important has not been as pronounced as in Taiwan.

However, the agricultural policies pursued by South Korea since independence contributed significantly to distributing the benefits of growth. Sweeping land reforms radically altered the distribution of agricultural assets. The movement towards land reforms initiated in 1947 under American auspices led to sale of confiscated Japanese lands to tenant farmers, which resulted in considerable reduction of tenancy. By the indigenous land reform adopted in 1950, the government took over the landlord's properties with nominal compensation and distributed them to tenant farmers. This virtually eliminated tenancy. A ceiling of 3 hectares

was imposed on paddy land holding which in turn established a structure of very small owner operated farms. The proportion of farm households holding upto one hectare constituted 65 percent in 1968 and underwent only a slight reduction in 1974 (62 percent)[9] The proportion of farm households holding between one and two hectares also remained unchanged (26 percent) between the two periods. Thus the broad characteristic of land distribution has remained practically unchanged. This meant that farmers could gain more or less equitably from the growth in farm incomes.

A major factor contributing to modernization of agriculture has been the stress on early education. Primary education was made nearly universal by early 1960s. Literacy is now estimated to be nearly 90 percent. The human resource development with a highly literate population facilitated the introduction of the new agricultural technology; it also helped in rapid industrialization.

Agricultural incomes rose between 1963 and 1973 through a deliberate policy of raising the price of grains (rice and barley), which turned the terms of trade in favour of the farmers. The terms of trade of the farmers with Index 1970=100 which was 78.8 in 1968 rose to 143.1 in 1973.[10] Turning the terms of trade in favour of the farmers has been an important instrument in improving the distribution of income between rural and urban households. However, the large farmers tended to benefit more than the others from the price support policies.

Rural-urban disparities were also sought to be reduced through the New Community Movement called "Saemaul undong" initiated in 1970. Although the primary object of the movement was encouragement of

self-help and sense of community, it also helped in improving the infrastructure by expansion of farm roads, water-supply, minor irrigation and electrification, thus paving the way for income-generating activities. "The average farm income increased from 500 in 1970 to $1,860 in 1975 through the adoption of high-yielding rice varieties, co-operative farming, utilisation of idle labour force, and gradual improvement of marketing structure." 11/

Compared to Taiwan or even other Far Eastern standards, agricultural productivity has not been high in South Korea. The country has been a high cost producer of rice, it has also been a significant importer of grain in early 1970's even though the average annual growth rate of agricultural production has been 4.5 percent between 1960 and 1970. Again like Taiwan though to a less extent most farm families depend heavily on non-agricultural activities to supplement their income. The decentralised development of agro-processing industries in the rural areas which promoted off-farm employment and off-farm income was not the pattern followed by South Korea. Its policy has been one of increasing concentration of industries. "While in the case of Taiwan, the agricultural sector provided an important push for industrialisation, in the case of South Korea, the agricultural sector was pulled along by the non-agricultural sector" 12/ Like Taiwan, South Korea also followed a strategy of export-orientation for rapid industrialisation starting from 1964. It may be noted that the growth process was initiated from a relatively equalitarian distribution of income. The export-led labour-intensive growth initiated in 1964 led to very rapid GNP growth rate and growth in income per capita.

The result of rapid industrialization has been that employment in agriculture as a percentage of total employment

declined from 63.2 percent in 1963 to 50.4 percent in 1970 and to 34.0 percent in 1980. The egalitarion distribution of income diminished absolute poverty. The proportion of households with incomes below a constant real poverty line which was 41 percent in 1965, declined to 23 percent in 1970 and to 15 percent in 1976. Inequality also remained at a low level. Inequality as measured by Gini co-efficient which was 0.34 in 1964, declined to 0.33 in 1970, but rose to 0.38 in 1976. The degree of inequality is therefore higher than in Taiwan. Even so, the distribution of income in South Korea has been regarded as one of the best in the developing world.[17/]

Relevance of Taiwan's and South Korea's experience in combining growth with equity to other developing countries

It has to be emphasized that no country's experience is fully transferable to other countries. Both Taiwan and South Korea have been small economies with limited natural resources. Hence their experience is not relevant for countries large in size or having sizeable land resources. However, there are certain aspects of their growth process which may be of some significance to other developing countries as well.

Both Taiwan and South Korea accorded high priority to agricultural growth in the initial stage of their development. An agricultural base had been already built up during Japanese occupation which facilitated rapid development of the agricultural sector after the attainment of independence.

Both countries resorted to sweeping land reforms during the early fifties which eliminated great disparities in asset ownership. Economic growth could take place on an improved distribution of income. Thus the Kuznets hypothesis of

inequality to accentuate in the early period of economic development did not materialise in Taiwan and South Korea.

The type of agricultural technology adopted in both countries was aimed at saving land without creating conditions of large scale rural unemployment. In fact, the use of high-yielding varieties; greater use of fertilizers and irrigation increased substantially agricultural productivity and labour-absorption in agriculture. Even the mechanisation that took place was more "land-esque" in the sense of increasing yield per ha (without replacing labour) rather than "labour-esque", (replacing labour): A.K.Sen 1968.[14/]

The promotion of decentralized medium and small scale industries in rural areas in Taiwan not only generated considerable volume of off-farm employment but also helped to reduce income inequality. In this respect, the Taiwanese experience serves as an object lesson to other developing countries.

The early spread of education enabled a wide segment of the population in South Korea and Taiwan to participate in the rapidly expanding manufacturing sector and in the extensive modernization of agriculture. The need for an educated labour force in accelerating economic development can hardly be over-emphasized in the developing economies.

The proportion of workers employed in agriculture has fallen, as mentioned earlier, in Taiwan and South Korea and those employed in manufacturing has risen. Because of the smallness of their economies and constraints of natural resources, they had per-force to turn to rapid industrialization and export expansion. This reduced the pressure on agriculture unlike in other developing countries.

Thus while the Taiwanese and South Korean experience of combining growth with equity is not transferable into, there are aspects, as mentioned above, which lend themselves to adoption by other developing countries.

II

The Indian Experience

Neither in respect of overall growth nor in respect of agricultural growth does the Indian economy compare favourably with that of Taiwan and South Korea (vide Appendix Table 1). The infrastructure for agricultural growth in these two countries had been laid, as pointed out earlier, during Japanese colonial rule. Post-Independence agricultural development at a fast rate could, therefore, take place in these two countries from a well-built base. Colonial rule in India, on the other hand, had left a stagnant agriculture. The growth rate of aggregate agricultural output between 1891 and 1946 was very low (0.4 percent per annum) while that of foodgrains output was practically nil (0.1 percent per annum).* The comparatively better performance of cash crops was due to the commercialisation of agriculture under British rule to cater to the industrial needs of the metropolitan country. Thus "on the eve of India's Independence, the agricultural sector may be taken as having had little inherent dynamism of its own and, also, lacked growth promoting thrusts from without beyond a few selective impulses provided by the process of commercialisation"[15/]

Attention, therefore, had to be devoted in India in the immediate post-independence period to provide an

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*Growth rates wherever indicated are compound growth rates.

environment conducive to growth by building up first the infrastructure through taking up the available slack for extending area, expanding irrigation facilities and strengthening of the input base. Between 1952-53 and 1964-65, aggregate agricultural output grew by 3.0 per cent per annum and foodgrain output by 2.5 per cent per annum.[16/] However, the yield growth rate was low, 1.6 per cent per annum for all crops and 1.8 per cent per annum in respect of foodgrains.[17/]

The acceleration of agricultural growth, particularly that of foodgrains took place only with the adoption of the seed-fertilizer-irrigation technology commonly known as the green revolution, from the mid-sixties. If we take the post-green revolution period 1968-69 to 1978-79, the rate of growth of food-grains production has been 3.40 per cent per annum. But if we take the period 1967-68 to 1985-86, a fairly long period trend, the growth rate of foodgrain production has been only 2.74 per cent per annum indicating a slowing down of the momentum of the green revolution. However, if we take the more recent period, 1978-79 to 1985-86, the growth rate has been 3.38 per cent per annum.[18/] No doubt, this has been moderate compared to the high rates of growth of agricultural production in Taiwan and South Korea in the mid-sixties. But it needs to be stressed that the higher growth rate achieved in India has been due to higher productivity and not due to additional area under foodgrains. Thus where as the area under foodgrains grew only by 0.34 per cent per annum between 1967-68 to 1985-86, that of productivity grew by 2.30 per cent per annum. During the shorter time span 1978-79 to 1985-86, productivity grew by 3.35 per cent per annum. In absolute terms, foodgrain production rose from 94.8 million tons in 1967-68 to 150.5 million tons in 1985-86.

It should also be remembered that the seed-fertilizer-irrigation technology has been adopted much more widely in wheat and rice production than in respect of other foodgrains Even in respect of these two cereals, the new technology has been more widely adopted in wheat than in rice. The impact of new technology was, therefore, much greater in wheat production than in rice production. Thus the rate of growth of wheat production between 1967-68 and 1985-86 has been 5.6 per cent per annum while that of rice has been only 2.5 per cent per annum. The rate of growth of coarse cereal production has been meagre, 0.7 per cent per annum. Production behaviour of coarse cereals which have only 15 to 20 per cent of their area under irrigation has been tilting the scales of growth.

Another factor which has to be taken into account in any comparison with Taiwan and South Korea is that while India has a sub-continental economy, the economies of Taiwan and South Korea have been small. Inter-regional variations in output growth have been marked in India. The wide inter-regional variations in output growth can be attracted by the growth attained in the various States. Thus between 1967-68 and 1984-85 while Punjab attained a growth rate of 6.1 per cent per annum in foodgrain production, Haryana attained 3.9 per cent, Uttar Pradesh 3.3 per cent and Gujarat 3.6 per cent while Madhya Pradesh attained 1.7 per cent; Karnataka 1.8 per cent; and Orissa 1.3 per cent per annum.[19/] As has been aptly pointed out by Prof.Lewis "if India was carved into countries of Latin America's size, we would find several regions that matched Latin America or South East Asia performance; what holds down the Indian average is the larger population that continues to live at subsistence level on inadequately watered marginal lands, without profitable cash crops".[20/] What Prof.Lewis has stated is substantiated by the wide inter-state variations in foodgrain production growth rate mentioned above which brings down the average all-

India growth rate. What he has stated in respect of irrigation is equally true. There have been wide regional variations; the percentage of irrigated area to total area under cultivation in 1983-84 has varied from 89.9 per cent in Punjab and 63.2 per cent in Haryana to 48.5 per cent in Uttar Pradesh and 46.8 per cent in Tamilnadu 21.3 per cent in Rajasthan and 12.7 per cent in Maharashtra. The use of inputs has also witnessed similar marked variations. Thus fertilizer consumption per ha has varied in 1985-86 from 158.8 kg per ha in Punjab; 110 kg per ha in Tamilnadu and 79.8 kg per ha in Uttar Pradesh to 19.9 kg per ha in Madhya Pradesh; 16.9 kg per ha in Orissa and 4.7 kg per ha in Assam. It may be mentioned that while the all-India average consumption of fertilizers has been 50.6 kg per ha (1985-86), it touched the level of 337.9 kg per ha in South Korea.

Nor has the growth rate in India been a sustained one. There have been marked fluctuations in output from year to year around a rising trend. Thus successive peak levels in foodgrain production has been rising. The peak level of foodgrain production attained in 1970-1971 was 108.4 million tons; the next peak level attained in 1975-76 was 121.0 million tons; the peak level attained in 1978-79 was 131.9 million tons and that attained in 1983-84 was 152.4 million tons. Likewise, the successive shortfalls from peaks have been less and less. Thus the fall in production in 1976-77 from the peak level of 1975-76 was of the order of 8.1 per cent; while the fall in 1984-85 from the peak level of 1983-84 was only of the order of 4.5 per cent.

In the pre-green revolution period, expansion in cultivated area as a source of growth was much more important than in the post-green revolution period.

Area expansion has been a relatively stable component of growth. In the post-green revolution period, yield expansion has been of rising significance in output growth as pointed out already. But the variability in yield per acre has also increased in the post-green revolution period due to the complementarity between the new technology signified by use of high yielding seeds and fertilisers on the one had and irrigation on the other. In a year where soil moisture is adequate and water table favourable on account of good rainfall, yields of foodgrains are pushed up significantly, but in a year of deficient rainfall, these yields are pushed down, thus widening the year to year differences in yields. Since rainfall has not been so erratic as in India and since it is more or less more evenly spread throughout the year, growth in agricultural output has not been subject to wide fluctuations in Taiwan and Korea.

Moreover, unlike in Taiwan and South Korea, multiple cropping has not made much headway in India. "This is due in part to the slow exploitation of groundwater potential in regions like the eastern Gangetic belt where cropping intensity is low, despite the predominance of small farmers and abundant availability of labour. This is also explained in part by the generally capital intensive nature of new technology which is particularly suited to the large farmers who are unwilling to absorb more labourers necessary for multiple cropping and who instead seek to maximise output on the area already under cultivation through the intensification of modern input."[21/] Policies for increased labour absorption in agriculture as in Taiwan and South Korea are, therefore, likely to lend stability to agricultural output in India.

Growth and equity

Although achieving social justice has always been a policy goal under successive five year plans of India, it was only from the Fourth Five Year Plan (1969-1974) that the distribution of the benefits of growth in the rural/agricultural sector came to be emphasised. Thus the Fourth Plan stated that one of the important objectives is "to enable as large a section of the rural population as possible including the small cultivator, the farmers in dry areas and the agricultural labourer, to participate in development and share its benefits.[1] Realising that "trickle down" mechanism though operative, has not been very perceptible, special programmes for small and marginal farmers were designed to extend the benefits of economic development to the weaker sections in the rural areas. Thus in the strategy of agricultural growth in India two strands have been visible; side by side with accelerating agricultural production, agricultural strategies have been devised to ensure the flow of benefits to the weaker sections through special programmes. The succeeding Plans, therefore, enlarged the special programmes by the launching of Integrated Rural Development Programme (IRDP); National Rural Employment Programme (NREP); and Rural Landless Employment Guarantee Programme (RLEGP) for alleviation of poverty.

To what extent agricultural performance in the post-green revolution period affected the level of poverty in the rural areas? Poverty is inversely related to agricultural performance. Montek S.Aholuwalia using the NSS

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1. Report on the Fourth Five Year Plan 1969-1974; Planning Commission; page 120.

data on the distribution of consumption expenditure in nominal terms and poverty lines in current prices, comes to the conclusion that although there has been no underlying time trend in poverty, the period after the green revolution has shown more or less steady decline in rural poverty.[22/] The following Table indicates the movement of rural poverty and agricultural income from 1967-68 to 1977-78.

Table 1: Movement of Rural Poverty and Agricultural Income

Year	Percentage of population in poverty	Rural Population (in million)	NDPAgriculture (Rs.crores 1970-71 prices)	Percapita NDP agriculture(Rs)
1967-68	56.5	407.6	14,043	344
1968-69	51.0	415.4	14,121	340
1970-71	47.5	431.2	16,354	379
1971-72	41.2	439.1	16,209	369
1972-73	43.1	445.3	15,118	339
1973-74	46.1	451.6	16,298	361
1977-78	39.1	476.8	19,045	399

(Source: Montek S.Ahluwalia: Rural Poverty, Agricultural production, and Prices: A Re-examination: In Agricultural Change and Rural Poverty edited by John W.Mellor and Gunvant M.Desai 1986).

Thus from 1967-68 to 1977-78 there has been a steady decline in rural poverty although not substantial. This has been because the growth rate in agriculture itself has not been significant. Moreover, the kind of agricultural development deemed feasible by Indian planners has been characterised as "growth without radical institutional change", as is indicated in a subsequent section.

For analysing the effects of the green revolution technology on employment, it would be useful to divide it into water-seed-fertilizer technology and agro-mechanical technology. As regards the first, the switch to pumpsets has tended to decrease man hours per hectare (there is evidence from Uttar Pradesh and Punjab about this effect). The new seeds, irrigation and other bio-technical inputs help to increase the use of hired labour in agriculture especially when double cropping is introduced. Under double cropping, even the small holder may find it difficult to cope with harvesting through family labour alone. As regards agro-mechanical technology, its impact on total and hired labour use depends on the operations mechanised. The use of tractor may be said to be land augmenting since in conjunction with new seeds it helps to break the supply bottleneck during the period of the year when land preparation for the new crop follows harvesting of another. On the other hand, the use of combine harvester displaces labour as evidence from Punjab and Haryana indicates. In general, in terms of individual operations, mechanisation has tended to reduce labour demand especially for land preparation and threshing.[22/]

Some of the general effects of the spread of the new technology have been that it has led to increased market dependence of the farmer for supply of inputs such as seed, fertilizer, pesticides, mechanised inputs and for sale of output; it has also led to a decrease in tenancy and an increase in concentration of land ownership in agriculturally developed areas.

Structural Changes

It was mentioned before that one of the main reasons for the exceptionally equal distribution of income in Taiwan and South Korea has been the reduced inequality of

wealth brought about by radical land reforms in both countries. And this took place before the rapid growth of agriculture. It has been said that "the initial distribution of assets and incomes may be a crucial determinant of the trend in inequality. People who already own assets, whether physical or human capital are in the best position to profit once growth begins. Thus, a society that begins growing with an unequal income distribution is quite likely to remain unequal or become more so, whereas one in which initial disparities are small may be able to avoid a significant increase in inequality. And the most powerful determinant of income distribution is the underlying structure of the economy". (David Morawetz 1977).

Unlike in Taiwan and South Korea, land ownership is very unevenly distributed in India. According to the 37th Round of the NSS (1982) on Some Aspects of Household Ownership Holding[24/] marginal farmers (less than 1.0 ha) had 12 per cent of the area owned; small farmers (with 1.0 to 2.0 ha) had 16 per cent owned land; semi-medium farmers (with 2.0 to 4 ha) had 23.0 per cent of owned land; medium farmers (4 to 10 ha) had 30 per cent of owned land and large farmer (with 10 ha and above) had 18 per cent of owned land. Overtime (1961-62 to 1982) there has been an increase in the percentage of households of the lowest holdings (leading to a marginalization of holdings) while the percentage of households of higher holding size (starting from 2.0 ha) have decreased steadily. However, the category of households among medium and large holdings (holdings of size 4.0 ha and above) still command a much larger share of land owned compared to the proportion of households falling in those size classes.

The uneven distribution of the ownership of land has been ascribed largely to the ineffective enforcement of the ceiling on landholdings and the tenancy legislation. In

respect of land ceilings, fictiticus (benami) and fraudulent partition of land have been made to escape the ceiling limits. Taking an aggregate picture of land ceiling measures undertaken since the fifties, "a total of 72.34 lakh acres of land have been declared surplus, nearly 57 lakh acres have been taken over by the State and 43.54 lakh acres have been distributed. Thus at the end of March 1985, 28.8 lakh acres out of a total of 72.34 lakh acres remained undistributed (Indian Agricultural Development since Independence 1986 edited by M.L.Dantwala and others).
As regards tenancy legislation enacted to provide security of tenure to tenants, regulating rent and conferment of ownership rights on cultivating tenants, implementation has been better than in respect of the ceiling legislation atleast in some States like Maharashtra and Gujarat.

As an overall measure of inequality in land distribution, the concentration ratio's for household ownership may be considered. It was 0.73 in 1961-62; 0.71 in 1971-72 and 0.71 in 1982 (37th Round of NSS). It will be seen that although there has been a tendency for the inequality in the distribution of ownership holding to decrease over the years, the tendency has not been appreciable.

In the development process, the share of agriculture in Net Domestic Product has declined; from 58.7 per cent in 1950-51 to 37.5 per cent in 1982-83. But the share of the population dependent on agriculture (cultivators and agricultural labourers) has not declined to the same extent; it has declined only slightly from 67.5 to only 66.5 per cent during the same period. (Dandekar 1986)[25/] In consequence, the per capita NDP in agriculture has remained more or less stagnant and the gap between agriculture and the rest of the economy has been widening the ratio of per capita NDP in non-agricultural and agricultural sectors which was

2.68 in 1970-71 rose to 3.22 in 1983-84 (Dandekar 1986). The paradox of growth in agricultural production and declining perworker NDP in agriculture is to be explained in terms of the growth in agricultural labour force and the failure of the non-agricultural sector to grow sufficiently to absorb the addition to the agricultural labour force.

A redeeming feature in recent years has been the growth of non-agricultural employment in rural areas. The share of non-agricultural to total workers in rural areas is estimated to have grown from 17 per cent in 1972 to 23 per cent in 1983 among males and 10 to 13 per cent among females due, it has been pointed out, to accelerated commercialisation of the rural economy and growth of public spending of all types in rural areas (Vaidyanathan 1986).[26/] The increase in non-agricultural employment is an indication of the diversification of occupations in the rural economy but it has not been anywhere on the scale witnessed in Taiwan and South Korea.

The "Special" case of Punjab & Haryana

Punjab and Haryana have been referred to as "islands of growth". As has been mentioned earlier, foodgrain growth rate over the fairly long period from 1967-68 to 1984-85 in Punjab and Haryana touched the level of 6.1 per cent per annum and 3.9 per cent per annum respectively. Such an appreciable growth rate has been accompanied by a low proportion of population below the poverty line. In Punjab, the proportion of the population below the poverty line has declined from 15.1 per cent in 1977-78 to 13.8 per cent in 1983-84 and in Haryana, the decline has been from 24.8 per cent to 15.6 per cent over the same period (vide Appendix Table 3). In fact, the percentage of the population below the poverty line has been the lowest in these two States. It is less than a half compared to the all-India figure of 37 pr cent in 1983-84.[27/]

Comparing the experience of Punjab and Haryana with that of Taiwan and South Korea, John R.Westley observes that "Punjab and Haryana number among the very small group of countries which have both achieved rapid percapita GNP growth and have reduced poverty significantly below the average for their level of development. By these criteria, Punjab-Haryana is an important case of equitable growth. As in several of the other cases of equitable growth (China, South Korea, Taiwan), Punjab and Haryana have been particularly noteworthy for their agricultural development. Thus, the Punjab-Haryana case raises the issue of the relationship between agricultural development and equitable growth."[28/]

Unlike in Taiwan and South Korea, growth in Punjab and Haryana has been more agriculture-led than industry-led. The share of agriculture in Net State Domestic Product (NSDP) in Punjab and Haryana still continues to be slightly over 50 per cent compared to 16 per cent (1980) in South Korea. The much lower relative contribution of agriculture in South Korea and Taiwan has been due to the rapid industrial growth during the 1960s and 1970s. Like Taiwan and South Korea, Punjab and Haryana have benefitted from the building up of an infra-structure of assured irrigation, roads, extension and credit. Like Taiwan and South Korea, there has been a widespread adoption of the new technology in agriculture. Other factors which have favoured agricultural growth in Punjab and Haryana have been the relatively low man-land ratio; the predominance of self-cultivation, expansion of double cropped area (cropping intensity in Punjab is the highest of all States, 164.6) and the "rural bias" in agricultural development policies. Further, agriculture has been export-oriented in the sense of export of foodgrains to the rest of India. The agricultural growth rate attained in Punjab and Haryana compares favourably with that attained in Taiwan and South Korea by the mid-sixties (5.1 per cent upto 1965 in Taiwan and 5.0 per cent in South Korea until 1965).

While thus from the point of view of agricultural growth, the experience of Punjab and Haryana is comparable with that of Taiwan and South Korea, in the distribution of the benefits of growth there is a marked difference between them. Since the land holdings are distributed in a skewed manner in Punjab and Haryana, the distribution of the gains has been quite inequitable. The area owned by medium farmers (4 to 10 ha) has been 45 per cent and that owned by large farmers (10 ha and above) has been 15 per cent in Punjab according to the NSS Report on Land Holdings, 1982. The low percentage of the population below the poverty line masks the unequal distribution of ownership holdings. The concentration ratio for ownership holdings has been 0.77 in Punjab and 0.75 in Haryana (1971). Since there has been no radical land redistribution, "the gains of the new technology have been distributed more or less in proportion to the initial land holding.[29/] Reforms affecting assets played a very limited role in Punjab and Haryana. The most important aspect of land reforms has been consolidation of holdings which no doubt has been a significant factor in promoting productivity and production. To argue on the basis of relatively high agricultural growth rates and the low proportion of the population below the poverty line that Punjab and Haryana have attained both growth and equity similar to Taiwan and South Korea is to ignore the fact that Taiwan and South Korea not only grew very fast but did so without experiencing increasing inequalities.

Lessons from Taiwanese and South Korean Experience for India

In his study of economic development in Taiwan and South Korea, Professor Tiber Scitovsky observes that "indeed, by the double criteria of growth and equity, they have been the most successful of all the developing countries."[30/] Does their success story hold out any lessons for India?

The main reason for the exceptionally equal distribution of income in Taiwan and South Korea has been the drastic reduction in inequality of assets in rural areas brought about by land reform. Land reforms in both countries not only distributed among small tenants the large estates formerly held by the Japanese but also forced the domestic landowners to sell all their land above 3 hectares to the State which in turn distributed them to tenants. Moreover, land reform preceded agricultural development which could thus take place on a basis of equality. In India, on the other land, the ceiling on land holdings, has not been strictly enforced with the result that inequalities in asset distribution has been a conspicuous feature. The distribution of the gains from development has, therefore, been unequal in India.

While there has been to some extent a trickling down of the benefits from the adoption of the new technology in India, it has not been significant as the agricultural growth rate has not been high enough nor sustained enough. Thus reliance on growth alone cannot be expected to bring about a significant reduction in the incidence of proverty in the country. "If agricultural NDP per head of the rural population were to rise by 1 per cent per year - a modest improvement over past performance - it would take 35 years to reduce the percentage of the population in poverty to 20 per cent by trickle-down process alone. If the growth rate were raised to 2 per cent - a very substantial improvement over observed rates of growth - it would take 18 years" (Montek S.Ahluwalia 1986). Hence growth would have to be supplemented by special programmes to increase the ability of small and marginal farmers to benefit from improvement in technology. Equally necessary is it to promote rural employment programmes to add to labour demand and to bring about a rise in wage rate for the benefit of the landless labourers.

The policy of decentralisation of industry to rural areas in Taiwan and Korea is particularly relevant to India in this context. Not only did it generate in these two countries additional employment opportunities to farmers, but served to increase non-farm incomes as well. In Taiwan, non-farm income as a proportion of total earnings which was 53.7 per cent in 1975, rose to 72.7 per cent in 1979. (Tibor Scitovsky 1985)

In accelerating agricultural development, intensive cultivation practices in Taiwan and South Korea have played a notable part. Double and even triple cropping in these countries particularly in Taiwan where the multiple-cropping index had risen to almost 190 per cent already by 1964, considerably increased the utilization of land, labour, farm machinery and infrastructural facilities. Compared to the cropping intensity in Taiwan and South Korea, the cropping intensity in India has been low, only 129.8 per cent (1982-83). India could profitably learn from the experience of these two countries in this regard.

The high performance of Taiwan and South Korea has been due also to two other factors. One is the ability and willingness of the people to work hard. In this connection, Prof.Scitovsky refers to their work ethic which he states is not unlike the Protestant and Jewish work ethics. The average length of the working week in Korea has been 59 hours, while that in Taiwan it has been only slightly less, 51 hours. In India the length of the working week has been only 35 hours as pointed out by Prof.Sukhamoy Chakravarty.[31/] The work ethic , Prof.Chakravarthy points out, is of critical significance in the growth process.

The other factor is the high educational and skill levels attained in Taiwan and South Korea. Both started

from a very low level of literacy at the end of World War II. It was 13.4 per cent in Korea in 1945 and 21.3 per cent in Taiwan by 1940. Since then, illiteracy has been almost completely eradicated in both countries. School enrolment ratios have been at the same level as in advanced industrial countries. The comparative advantage of both in skilled labour has been an important element in the widespread adoption of new technologies in industry as well as in agriculture. India has to go a long way in catching up with these two countries. "Experience has shown that a well educated population in the best guarantor of sustained and equitable economic development. Above all, education offers the invaluable key to advancement of those trapped in the cycle of poverty"32/

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Appendix

Table - 1: Average Annual Growth Rates[1]

(Percentage)

	Taiwan	South Korea	India
Population (1965-1981)	2.3	1.9	2.2[2]
Gross National Product (1965-1981)	8.7	9.4	4.0
Agricultural growth			
1960-1970	5.1	4.4	
1970-1981	2.8	3.0	2.7[3]

1. The data for Taiwan and South Korea are from Economic Development in Taiwan and South Korea: 1965-81 by Tibor Scitovsky.

2. Refers to 1971-1981

3. Refers to growth of agricultural production 1967-68 to 1985-86 (Source: Is Agricultural Production Stagnating? Directorate of Economics and Statistics; Ministry of Agriculture; Government of India).

Table 2: Social Indicators

	Taiwan	Korea	India
Life expectancy at birth	72	65	56
Infant mortality per 1000 livebirths	37	28	90
Literacy rate	90	90	36
Daily calorie intake per capita	2805	2785	2189

Source: World Development Report: 1986, World Bank

Table 3: Population Below Poverty Line[1] (Percent)

State	1977-78	1983-84
Bihar	57.5	49.5
Madhya Pradesh	57.7	46.2
Uttar Pradesh	50.1	45.3
Orissa	56.4	42.8
Tamilnadu	52.1	39.6
West Bengal	52.5	39.2
Andhra Pradesh	42.2	36.4
Karnataka	48.3	35.0
Maharashtra	49.7	34.9
Rajasthan	33.8	34.3
Kerala	47.0	26.8
Gujarat	39.0	24.3
Assam	51.1	23.5
Haryana	24.8	15.6
Punjab	15.1	13.8
All India	48.1	37.4

1. For 1977-78, the above estimates are derived by using the all-India poverty line of Rs.65 per capita per month in 1977-78 prices corresponding to a minimum daily calorie requirement of 2400 per person, in rural areas and poverty line of Rs.75 per person per month corresponding to daily calorie requirement of 2100 in urban areas. For 1983-84, the above estimates are derived by using the poverty line of Rs.49.09 per capita per month at 1973-74 prices corresponding to a daily calorie requirement of 2400 per person in rural areas and a poverty line of Rs.56.64 per capita per month corresponding to a calorie requirement of 2100 in urban areas.

Source: Economic Intelligence Service: Basic Statistics Relating to the Indian Economy Vol.2; States:1987.

Table 4: Gini Coefficient of Inequality of Income Distribution

	Early 1950s	1968-72	1976-78
Taiwan	0.5	0.3	0.27
South Korea		0.34[1]	0.38[2]
India[3]		0.73[4]	0.71[5]

1. Refers to 1964
2. Refers to 1976
3. Refers to concentration of landownership
4. 1961-62
5. 1971-72

Source: a) Gary S. Fields: Employment, Income Distribution and Economic Growth in Seven Small Open Economies: Economic Journal: March 1984 (for Taiwan and South Korea).

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